New Priorities for the 21st Century

National Marine Fisheries Service Strategic Plan

Updated for

FY 2005 – FY 2010

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

Message from the Assistant Administrator of Fisheries

Americans depend on our Nation's living marine resources for food, jobs, recreation, tourism, medicine, and all sorts of industrial and commercial products. More and more they recognize the importance and value of healthy marine ecosystems to our environment and quality of life. We all have high expectations that public policies will ensure the health of these resources. However, we are at a crossroads in the care and use of our living marine resources. At no point in history has greater economic, political, and public interest been focused on the use and protection of these resources.

NOAA has recognized the importance of these circumstances in its Strategic Plan by setting a goal to "Protect, Restore, and Manage the use of Coastal and Ocean Resources through an Ecosystem Approach to Management." The National Marine Fisheries Service (NMFS) has stepped up to this challenge by providing in its strategic plan an integrated ecosystem approach to the stewardship of these resources.

The NMFS Strategic plan provides a look into a future of ecosystem approaches to management, rebuilding and sustaining fishery and protected species stocks to their long-term potential. This will help ensure future performance, productivity, and biological diversity of marine ecosystems for the greatest benefit to the nation.

The NMFS Strategic plan is an important link between budget and performance. It is a critical tool to steer us in the direction of ecosystem approaches to management and to help us design and create programs, allocate resources, and perform with better accountability for results.

Over the next five years, NMFS will lead through NOAA's Ecosystem Goal Team the design and development of new programs and approaches to address longstanding barriers to reducing overcapacity and rebuilding overfished fisheries. We will simultaneously improve the quality, scope, and effectiveness of our stewardship activities for protected species and habitat conservation. We propose changes to our management programs to accomplish these objectives in a scientifically credible and integrated manner, taking account of all uses of our living marine resources.

No successful, societal response to environmental or ecological stress, however, has ever been accomplished by a single agency or organization. Success requires the interaction, cooperation, and feedback that comes only when all parties involved work together to achieve these goals. The delicate balance of achieving multiple objectives to produce the greatest benefits requires extensive collaboration with our NOAA, federal, international, state, local, tribal, and non-governmental organization (NGO) partners, as well as the public. In addition, we will have to develop new partners and relationships as we move towards ecosystem approaches to management.

I am committed to an open and transparent NMFS that will continue to expand existing partnerships and collaboration as well as to welcome our new partners in this endeavor.

_____/s/_____
William T. Hogarth, Ph.D.
Assistant Administrator for Fisheries
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

VISION

American people enjoying the riches and benefits
of healthy and diverse marine ecosystems

MISSION

Stewardship of living marine resources through science-based
conservation and management, and the promotion of healthy ecosystems

RESPONSIBILITIES

NOAA's National Marine Fisheries Service (NMFS) derives its mandates and authorities from numerous statutes, most significantly the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), the Endangered Species Act (ESA), and the Marine Mammal Protection Act (MMPA). To implement these authorities, the Department of Commerce (DOC), NOAA, and NMFS have developed strategic plans to guide Department and Agency efforts over the next five years. NOAA's mission to understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs falls under Goal 3 of the DOC strategic plan.

Most of NMFS' programmatic activities support achieving NOAA's strategic goal to *Protect, Restore, and Manage Coastal and Ocean Resources through an Ecosystem Approach to Management*. NMFS activities also support NOAA's goal to *Understand Climate Variability and Change to Enhance Society's Ability to Plan and Respond*. Finally, NMFS provides agency-wide services for NOAA's *Critical Mission Support*.

NMFS employs about 2,500 people across the country in our six regional offices and science centers as well as in our headquarters in Silver Spring, Maryland. In implementing our stewardship activities, we work closely with our partners in state and other federal agencies, local and tribal governments, industry, academia, and non-governmental organizations (NGO).

We also work closely with the other NOAA line offices. Of the nine NOAA programs in which we participate, seven involve at least one other line office. We work with the National Ocean Service (NOS) on habitat protection and restoration and coral reef conservation, as well as other activities. We work with Oceanic and Atmospheric Research (OAR) on ecosystem research, coral reef conservation, and understanding climate effects on ecosystems, among other things. We also work with the National Environmental Satellite Data Information Service (NESDIS) to provide GIS maps of habitat for trust species and with the National Weather Service (NWS) on using NOAA Weather Radio to publicize fishery closures.

For each goal, NOAA's strategic plan describes high-level outcomes, strategies, and performance objectives and measures to achieve NOAA's vision of an informed society that uses a comprehensive understanding of the oceans, coasts, and atmosphere to make the best social and economic decisions. This NMFS Strategic Plan describes the programs executed wholly or in part by NMFS as they relate and contribute to broader NOAA outcomes and strategies. The specific contributions of NMFS activities to the NOAA programs in the Ecosystem, Climate, and Mission Support goals are described in the following sections.

NOAA MISSION Goal: Protect, Restore, and Manage Coastal and Ocean Resources Through an Ecosystem Approach to Management

NOAA, through NMFS is the lead federal agency in protecting, restoring, and managing living marine resources and their ecosystems. To balance economic, social, and environmental needs, we take an ecosystem approach to management. This approach strives to integrate all concerns, priorities, and expertise in the management of coastal and marine resources.

NOAA Outcomes	NOAA Strategies	NOAA Programs Executed Wholly or in Part by NMFS
Healthy and productive coastal and marine ecosystems that benefit society A well informed public that acts as a steward of coastal and marine ecosystems	Engage and collaborate with our partners to achieve regional objectives by delineating regional ecosystems, forming regional ecosystem councils, and implementing cooperative strategies to improve regional ecosystem health.	*Ecosystem Observations* *Ecosystem Research* Fisheries Management Protected Species *Enforcement* *Habitat* *Corals* *Aquaculture*
	Manage uses of ecosystems by applying scientifically sound observations, assessments, and research findings to ensure the sustainable use of resources and to balance competing uses of coastal and marine ecosystems.	
	Improve resource management by advancing our understanding of ecosystems through better simulation and predictive models. Build and advance the capabilities of an ecological component of the NOAA global environmental observing system to monitor, assess, and predict national and regional ecosystem health, as well as to gather information consistent with established social and economic indicators.	
	Develop coordinated regional and national outreach and education efforts to improve public understanding and involvement in stewardship of coastal and marine ecosystems.	
	Engage in technological and scientific exchange with our domestic and international partners to protect, restore, and manage marine resources within and beyond the Nation's borders.	

Italics represent programs in which other NOAA line offices participate.

NMFS' stewardship activities under this goal support NOAA performance objectives to:

- Increase number of fish stocks managed at sustainable levels
- Increase number of protected species that reach stable or increasing population levels
- Increase number of regional coastal and marine ecosystems delineated with approved indicators of ecological health and socio-economic benefits that are monitored and understood
- Increase number of habitat acres conserved or restored
- Increase portion of population that is knowledgeable of and acting as stewards for coastal and marine ecosystem issues.

Nearly all NMFS activities fall under the Ecosystem Goal and provide over half the resources devoted to it. NMFS' contributions to these programs are described in the following sections.

Ecosystem Observations

Ecosystem Observations is a matrix program led by NMFS in partnership with OAR and NOS that collects, manages, stores, and disseminates data on the status of living marine resources and their environment to provide managers with information to make informed decisions. The EOP is an "end-to-end" coastal and oceanic ecological observing system that is a component of the Integrated Ocean Observing System (IOOS). EOP's activities include routine living marine resource surveys and monitoring, assessments and forecasts (including economic and social aspects), and research to improve the technical capability of the observation system. The EOP has collaborative linkages within NOAA as well as with non-NOAA stakeholders, including the fishing industry, and academic and NGO communities.

Over 95% of the EOP resides within NMFS. NMFS' observations provide routine, timely, and scientifically valid information on NOAA's trust species. There are eight major components:

- Living marine resource surveys
- Ecosystem surveys
- Protected resource surveys
- National observer program
- Habitat assessments
- Commercial fisheries statistics
- Marine recreational fisheries statistics
- Economic and socio-cultural surveys

We also perform corresponding data management, analysis, education, and outreach.

Over the next five years, we will:

- Deliver comprehensive and timely catch information from web-enabled databases
- Provide abundance and biological data for all managed stocks
- Improve major stock assessment precision and minor stock baseline assessments
- Improve and extend model forecasts with environmental and ecosystem data.
- Deliver comprehensive and timely stock assessments for all protected species
- Increase survey and assessment effort for high priority protected species, such as those with known high levels of interactions with commercial fisheries or those that are endangered and need close monitoring
- Improve monitoring and assessments of ecosystems to provide routine forecasts on the effects of human activities, changes in the physical and chemical environment (e.g. seasonal short-term and long-term climate change), and interactions among biological resource communities and their habitats that affect the structure and productivity of regional marine ecosystems
- Conduct mandated economic and social science monitoring, assessment, and analysis
- Increase our ability to conduct community profiles, valuate protected species, and analyze the impacts of marine protected areas.

Key to attaining this full capability will be investment in advanced technologies and investment in research to elucidate environmental and ecosystem factors that most influence these stocks. Our data stewardship capabilities will respond to improvements in fishery, protected resource, ecosystem, economic, and social science monitoring and assessments to provide scientifically reliable and timely information to managers, the public, and other NOAA constituents.

Ecosystem Research

Ecosystem Research (ERP) is a matrix program led by OAR and including NOS that provides research results and tools for ecosystem management to NOAA and coastal stakeholders. ERP develops the models, tools, and techniques for ecosystem assessments and forecast and conducts research to improve understanding of natural and anthropogenic factors that affect ecosystems. ERP is organized into five program components:

- Evaluate and Understand the State of Coastal Ecosystems
- Develop Ecosystem Management Support Tools
- Technology Development for Coastal and Ocean Resources
- Ocean Exploration
- Capacity Building and Effective Knowledge Transfer.

Approximately 25% of the ERP resides within NMFS, and all of the NMFS funds within ERP are devoted to protected species research. Currently, our research within the ERP primarily focuses on Steller Sea Lion and Pacific Salmon recovery. However, in the next five years, research efforts will be expanded to further develop the next generation of stock assessments for protected species, known in our Stock Assessment Improvement Plan as "Tier III."

Tier III research will improve capabilities for ecosystem-based assessments, including research, expanded monitoring, and development of new models to better predict spatial and temporal changes in populations and the impact of human activities on protected species. Tier III assessments will incorporate information on:

- Behavior and physiology
- Multispecies interactions
- Linkages to oceanographic processes
- Food-web dynamics
- Population effects of sub-lethal natural and human impacts
- Market and non-market valuation
- Socio-economics
- Biotoxins, pollutants, disease, and pathogens to address health of protected species and marine mammals as indicator species of environmental and human health.

Tier III assessments will ensure management decisions are based on the best available information, increasing the likelihood of achieving conservation mandates while reducing conflict and litigation and minimizing economic impacts. Their primary focus at this early stage will be on expanding knowledge of marine animal health and the effects of noise on marine mammals. However, they will also include partnering with other agencies and academia to integrate ecosystem considerations into existing research programs, develop future plans and priorities for research, and mine existing data sources to conduct ecosystem-level research.

Fisheries Management

Management of Federal fishery resources is entrusted to NMFS under numerous laws, treaties, and other mandates. We work to ensure that fisheries are maintained at productive levels to support sustainable fisheries and the ecosystems of which they are a part.

We work with the eight Regional Fishery Management Councils to end overfishing, reduce bycatch, conserve essential fish habitat, and rebuild depleted stocks through the development of fishery management plans and associated regulations. The Councils recommend management plans and amendments and we approve these management programs and implement and enforce needed regulations. Toward this end, we:

- Develop analytical documents to support rulemaking
- Set new policies and revise existing policy on fishery management and economic and social issues
- Prepare guidelines and option papers on policy issues
- Set policy regarding the operation and administration of the Councils and appointment of Council members
- Seek improvements in fishing fleet and shoreside processing operations and reductions in overcapacity in fisheries
- Manage a voluntary seafood inspection service to assure compliance with all applicable food regulations
- Participate in negotiations of international agreements
- Support U.S. participation in regional fisheries management organizations and bilateral consultations
- Work to secure equitable fishing and trade opportunities for U.S. fishermen
- Manage foreign fishing permitting programs.

To ensure effective management of stocks throughout their range, we maintain cooperative partnerships with three Interstate Marine Fisheries Commissions, all coastal states, and five island territories and/or commonwealths. We also maintain liaison with other nations on fisheries matters.

To meet our future goals, we will implement a number of strategies in the coming years. Our short- and mid-term strategies to ensure productive fisheries in the future are to:

- Implement fully a regulatory quality improvement program
- Strengthen coordination of marine fisheries management and conservation between state and federal levels
- Increase opportunities for industry to improve economic performance
- Issue guidance for ecosystem approaches to management
- Increase public understanding of our stewardship role
- Manage to recover all overfished stocks under effective rebuilding plans.

Over the long-term, we will seek to ensure that ecosystem approaches to management are applied in the conservation and management of federal, state, and international fisheries; that the public promotes stewardship of marine fisheries; and that fish stocks are maintained at productive levels to support sustainable fisheries and ecosystems.

Protected Species

The Protected Species Program (PSP) protects and recovers species through planning, regulation, partnerships, direct action, and outreach and education both domestically and internationally. NMFS is the lead federal agency for protecting and recovering marine and anadromous species under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). As such, the PSP falls entirely under our jurisdiction. Activities include:

- Developing conservation actions for species approaching threatened or depleted status
- Listing species in need of protection under the ESA and categorizing stocks of marine mammals for levels of protection that will provide for future recovery
- Developing and implementing recovery and conservation activities
- Responding to stranding events and conducting a marine animal health program
- Developing publications and presentations and interacting in public forums for the purpose of outreach and education
- Preparing U.S. positions on issues and initiatives for international meetings
- Funding international conservation actions
- Transferring technology to international partners.

Over the next five years, our highest priority focus will be to stabilize or increase protected species populations and put ESA listed species and depleted marine mammal populations on the road to recovery. This effort will require us to:

- Complete required recovery, conservation, and take reduction plans
- Carry out recovery and conservation actions through partnerships
- Reduce the interactions of fisheries with protected species
- Achieve efficiencies in ESA section 7 consultations and ESA and MMPA permitting
- Implement proactive conservation efforts before species need to be listed under the ESA
- Improve education efforts.

While the main focus will be on issues that can be addressed domestically, we will expand international efforts in order to achieve recovery of species that spend a significant portion of their life cycle in international waters.

Over 60% of current funding is directed at funding partnership conservation, recovery, and co-management actions with coastal states, American Indian tribes, Alaska Natives, NGO's, universities, and various private entities. These partnership efforts will continue to leverage additional resources for conservation and are critical to achieving recovery of species.
We will strengthen partnerships internally through:

- Development of joint conservation programs with the Coastal and Marine Resource Management program (National Marine Sanctuaries)
- Improvement of protected species data collection through the EOP
- Improvement of protected species research through the ERP.

The data collected, analyzed, and synthesized through the EOP and the research conducted through the ERP provide scientific information necessary for the implementation of sound and successful management strategies. Better information leads to management that is consistent with the nature of the problem and allows us to reach conservation goals while also reducing the risk of costly socioeconomic impacts.

Enforcement

Enforcement is a matrix program led by NMFS in partnership with NOS that provides services to ensure compliance with measures enacted to protect, restore, and manage coastal and marine resources. These services are delivered through the NMFS Office for Law Enforcement (OLE), a professional, accredited law enforcement agency. The Enforcement mission includes the provision of services through strategies that include investigations, patrol and inspections, and outreach and education.

Investigations are conducted by over 140 special agents stationed throughout the coastal region of the U.S. states and territories. Agents investigate both civil and criminal violations, and may be responsible for up to 30 investigations each annually dependent upon the scope, complexity, and disposition of the case. The duration and scope of cases may range from only a few hours to several years.

NMFS also uses extensive patrol and inspection systems. We employ only 17 uniformed enforcement officers, most of whom are assigned to monitor the Individual Fishing Quota (IFQ) system in Alaska; however we hold cooperative enforcement agreements supported through Congressional funding to provide thousands of hours in patrol and inspections services in nearly every U.S. coastal state and several territories. We now hold such agreements with 21 coastal states and three U.S. territories; they place over 2,000 state resource officers at our potential disposal. In addition to patrol services, automated surveillance is provided through the use of vessel monitoring systems, which currently monitor over 2,200 vessels.

We also use outreach and education to elicit voluntary compliance with resource protection measures. Most citizens who are familiar with such measures and understand the potential harm from violating them respect the resources and comply. Through classroom sessions, literature distribution, sign placement, discussions with industry, and the facilitation of partnerships with volunteer, governmental, and non-governmental groups, we have had great success with voluntary compliance. Outreach and education are also an investment in the future as people learn the importance of conservation.

Over the course of the next five years, we will use the strategies described above to provide the enforcement services that serve as a foundation to support the ever expanding level of fisheries management plans, listed and protected species, import/export controls, international conventions and treaties, observer programs, and other responsibilities within our mission.

- Investigations – We will pursue an enhancement of investigative services through the advancement and implementation of computer and financial forensics, the application of advanced computer analysis, and the facilitation of international cooperation.
- Patrol, Monitoring and Inspections – We will pursue the advancement and expansion of strategies that serve as force multipliers in the areas of partnerships and use of technology through our “flagship” programs of State Cooperative Enforcement and Vessel Monitoring.
- Outreach and Education - We will pursue and implement expanded strategies that include non-traditional enforcement measures that facilitate cooperation, problem resolution, and compliance through use of the media, volunteer organizations, schools, industry, and the public.

Habitat

Habitat is a matrix program comprised of activities from OAR, NOS and NMFS that protects and restores coastal, marine, and Great Lakes. The program plans, funds, and implements habitat protection and restoration projects; advances habitat science; provides technical information and conservation recommendations; and involve coastal communities, NGOs, and states in partnerships to protect and restore habitats and provide opportunities and information to encourage stewardship of NOAA trust resources.

NMFS' habitat protection activities seek to avoid and minimize adverse impacts to living marine resource habitats. These activities are implemented in close cooperation with NOS (dredging, natural resource damage claims, energy development implications), OAR (research initiatives), and NESDIS (environmental data layers, GIS products, IT support). They include:

- Reviewing and responding to proposals to develop or otherwise alter key habitats
- Developing and analyzing measures to reduce adverse fishing effects
- Working with stakeholders to develop ecosystem management plans
- Developing policies that improve regulation and management of habitat impacts.

We participates in regional and national habitat restoration programs. We direct restoration planning, implementation, and monitoring for the Community-based Restoration Program, which undertook over 800 projects between 1996 and 2004. We serve as the Commerce Department representative to the Coastal Wetlands Planning, Protection and Restoration Act Task Force, which undertakes large-scale habitat restoration and protection in coastal Louisiana. We also serve as the primary source of restoration expertise for Damage Assessment and Restoration Program. With NOS and the General Counsel's Office, we address the effects of oil spills, releases of toxic compounds, and ship groundings.

Over the next five years, we aim to expand our capabilities to implement large-scale protection and restoration initiatives through a place-based approach with a specific focus on urban estuaries. We will seek a leadership role among stakeholders and industry sectors, leverage protection and restoration efforts, and provide technical guidance (including economic principles, bioeconomic modeling, GIS technologies) to improve decision making based on a foundation of science.

We will strive to:

- Improve the general understanding of habitat functions and threats by assessing and conducting habitat analyses
- Develop models that enhance forecasting capabilities
- Establish priorities for habitats protection and restoration
- Monitor and evaluate restoration techniques
- Develop tools and methods to track success.

We will expand efforts to infuse the best available information into policies, guidelines, models, and decisions that affect trust resources. We will pursue research partnerships to fill priority gaps in management plans and ecosystem approaches. We will implement an ecosystem approach to management that involve partners and stakeholders to protect and restore habitats that contribute to sustaining populations of fishery resources and reducing impacts caused by humans to our nation's coastal and marine resources.

Coral Reef Conservation

Coral reefs are the most diverse components of marine ecosystems—and among the most threatened. The NOAA Coral Reef Conservation Matrix Program, led by NOS, supports science and management to preserve, sustain and restore coral reefs. NOAA has management responsibility for coral reefs in Federal waters and National Marine Sanctuaries. Activities include:

- Implementing the Coral Reef Conservation Act and leading and coordinating U.S. coral reef conservation efforts, working closely with other Federal agencies, state and territory governments, and NGO partners
- Leading a comprehensive program to map and monitor U.S. coral reefs
- Increasing understanding of the ecological and oceanographic processes that govern the structure and function of coral reef ecosystems, and their response to environmental stressors such as overfishing, pollution, climate change, and disease.
- Designing, evaluating, and adapting specific management decisions that sustain and restore coral reef ecosystems
- Conducting outreach and education to increase community knowledge and support for conservation and management actions.

NMFS implements nearly 40% of the NOAA Coral Reef Conservation Program, mostly in Hawaii and the U.S. Pacific, and in Florida and the U.S. Caribbean. Coordinated planning and implementation across NOAA has allowed us to build on our strengths—the science capabilities of the Southeast and Pacific Islands Fisheries Science Centers and the management expertise and responsibilities of its Regional Offices—to support national efforts to conserve coral reef ecosystems.

With our partners, we conduct mapping, habitat characterization, and monitoring of coral reefs and associated ecosystems as well targeted research to provide managers with scientific information and tools. We support a variety of efforts to develop and implement management solutions to address threats to coral reef ecosystems, especially overfishing, in partnership with Regional Fishery Management Councils, state and territory managers, and non-governmental organizations.

Over the next five years, our highest priority will be to support an integrated ecosystem management approach to the conservation of coral reef resources. To this end we will:

- Support the national capability to monitor coral reefs that is needed to implement an ecosystem approach to management. In particular, NMFS and its partners will conduct coral reef ecosystem monitoring in National Marine Sanctuaries and remote island locations to complement existing state and territory monitoring programs.
- Reduce overfishing of coral reef resources in partnership with states, territories, and Fishery Management Councils
- Complete removal of major accumulations of marine debris in the Northwestern Hawaiian Islands
- Address deficiencies in our mapping, understanding, and protection of deeper tropical reefs and cold-water coral communities.

We will continue to be a key partner in developing an informed public and supporting targeted research and local initiatives to improve coral reef conservation.

Aquaculture

NMFS is the lead for NOAA's Aquaculture Matrix Program, which also includes OAR, NOS, and NESDIS. The program works to advance two long-term outcomes:

- Well-managed and productive marine aquaculture operations in the United States
- Worldwide adoption of environmentally sound marine aquaculture standards.

Achievement of these outcomes will increase seafood production and possibly support the replenishment of depleted stocks in a way that is both environmentally and economically responsible, both in the United States and internationally.

NMFS carries out the legislative and management aspects of the program as well as much of the research. In its execution, we use our legal/administrative capabilities (including rulemaking, permitting, and coordination); our scientific capabilities (including development of aquaculture systems for food production and stock enhancement, engineering of systems for high-energy offshore environment, and development of ecosystem and human health requirements and protocols for marine aquaculture); our education and outreach capabilities; and our capability to transfer technologies for commercial production, enhancement, and recovery of endangered species to the public and private sector (including pilot and demonstration projects).

In addition to working with other NOAA line offices and programs (including Enforcement and General Counsel) through the Aquaculture Matrix to achieve program goals and objectives, we also work with other related Department of Commerce programs and the Joint Subcommittee on Aquaculture.

Over the next 5 years, we will:

- Develop a comprehensive understanding of marine aquaculture economics and environmental issues associated with aquaculture to provide reliable information and analyses for use in decision-making
- Continue to develop new offshore aquaculture legislation for the Exclusive Economic Zone that will establish a fully operational regulatory infrastructure for offshore aquaculture that includes a streamlined permitting process, siting criteria, and pre-approved zones for offshore aquaculture
- Develop and improve marine species culturing systems for commercial and enhancement purposes
- Contribute to a public understanding of NOAA's aquaculture program by providing access to information on aquaculture research and industry issues.

Goal 2: Understand Climate Variability and Change to Enhance Society's Ability to Plan and Respond

Climate shapes the environment, natural resources, economy, and social systems that people depend upon worldwide. Major climatic events can have substantial impacts on marine ecosystems, leading to serious economic, social, and ecological consequences for living marine resources and society. To properly manage its trust resources, NMFS must measure, understand, and predict the impacts of climate variability and change on marine ecosystems. Our efforts and actions are guided toward delivering trusted, timely climate information to those who need and use it.

NOAA Outcomes	NOAA Strategies	NOAA Programs Executed Wholly or in Part by NMFS
A predictive understanding of the global climate system with quantified uncertainties sufficient for making informed and reasoned decisions on time scales of weeks to decades	Improve the quality of climate observations, analyses, interpretation, and archiving by maintaining a consistent climate record and by improving our ability to determine why changes are taking place.	*Climate and Ecosystems*
	Develop the ability to predict the consequences of climate change on ecosystems by monitoring changes in coastal and marine ecosystems, conducting research on climate-ecosystem linkages, and incorporating climate information into physical-biological models.	

Italics represent programs in which other NOAA line offices participate.

Our activities under this goal support the following NOAA performance objectives:

- Understand and predict the consequences of climate variability and change on marine ecosystems
- Increase number and use of climate products and services to enhance public and private sector decision making.

We participate in only one program under this goal.

Climate and Ecosystems

The Climate and Ecosystems Program, a matrix program led by NMFS in partnership with NOS, OAR, and NESDIS is just now being established. When implemented, it will provide resource managers the knowledge and tools to adapt to the consequences of climate change to marine and coastal ecosystems. Local- and regional-scale place-based demonstration projects will be conducted to link NOAA climate information with NOAA resource management information to predict the status of marine and coastal living resources in future climates.

Currently, all funding for the Climate and Ecosystems Program resides within NMFS, though we anticipate that ultimately other line offices will participate as well. We will:

- Focus studies to understand and predict climate-induced changes on marine ecosystems with critically important fishery stocks that are sensitive to climate variability.
- Take an ecosystem approach by investigating the physical and biological controls on a system and how these are affected by climate variability and change
- Develop biophysical indicators and models that meet the needs of managers to adapt to predicted climate-induced changes in living marine resources.

To aid in the development and verification of these indicators and models, we will continuously monitor changes in marine ecosystems through a network of in-situ and remote observing systems. We coordinate the planning of the Climate and Ecosystems Program with NOS and NESDIS, the other line offices involved in the Program. NMFS studies will be conducted in partnership with OAR scientists and will leverage other NOAA studies.

Over the next five years, we will:

- Determine variables and indices that characterize climate impacts on ecosystems
- Develop models to forecast ecosystem responses to climate variability
- Provide information to managers and stakeholders to allow them to adapt to climate-induced changes in marine ecosystems
- Expand the Climate and Ecosystems Program to other geographic regions.

Provide Critical Support for NOAA's Mission

Strong, efficient, effective leadership and support services within NMFS are essential to supporting NOAA's goals and programs. These qualities must also be able to adapt to evolving needs while improving our capability to support mission goals.

We are committed to organizational excellence through executive leadership, resource planning and management, administrative support, information technology, and specialized project support. We will also continue to improve our international affairs coordination and support, education/outreach/public affairs support, and research and technology applications to ensure effective management and communication.

Over the next 5 years, we will:

- Improve our annual budget estimate submission and associated documentation
- Continue oversight and management of NMFS Programs
- Work towards error free annual financial audits
- Make new investments to improve our IT information sharing and storing capabilities
- Improve our IT Security
- Continue to invest in maintaining our facilities to ensure a safe environment for our staff
- Implement a comprehensive agency-wide training program.

We must continue to have the scientific, technical, and administrative expertise necessary to maintain our leadership. We will continue our efforts to develop and sustain a high performing, diverse, and flexible workforce aligned with our requirements in the face of the anticipated retirement of many of our most knowledgeable employees. We will implement strategic approaches to address the knowledge, skills, and competencies that may be shortly lost. Areas of expertise to receive initial attention include stock assessment, economics, and social science, and general administrative and supervisory functions. Potential approaches include expanding the availability of e-learning to all employees, teaming junior staff members with senior ones, developing career paths for entry level administrative positions, and increasing the canvassing of colleges and universities for students interested in future positions with NMFS.

New investments in technology are needed to take advantage of high speed telecommunications, web-based technologies, and collaborative analysis techniques to streamline implementation of our mission and provide efficient services to the American public. This will enable rapid data analysis, creation of mobile wireless networks for use in the field, high speed wide-area network accessibility for Internet-based collaboration tools and conferencing on highly secure networks, and upgrades for our six Regional Data Centers to support distributed relational data bases and geo-spatial data warehouses. NMFS will also improve its IT security with full implementation of authentication systems.

New ships are needed to replace outdated ships that are costly to run, have limited capabilities, and break down frequently. New vessels are larger with state-of-the-art technical capabilities. They are engineered to be quieter, which will allow the use of active and passive hydroacoustics to improve stock assessments and behavior work. They will also have greater capacity, which will allow multiple missions during a single cruise. Finally, they will be more reliable, needing little down time for repairs. The ships' expanded capabilities, efficiencies and reliability will increase survey days at sea by at least 10% over existing capacity. We also support improvements to aviation operations that enhance their involvement in natural resource surveys.

Implementation and Evaluation

In accordance with the Government Performance and Results Act (GPRA), the Performance Assessment Review Tool (PART), and the directives of the President's Management Agenda (PMA), NMFS reports its results annually based on a set of outcome performance measures (see Appendix) that reflect the NOAA performance objectives. We believe it is important to evaluate the success of our stewardship activities according to the positive effects they have on the condition of the resources we manage. However, this subjects our performance to the influence of many factors that are partially or wholly beyond our control. Examples of such factors include:

- Extreme weather and climate events like hurricanes or El Nino
- Climate change
- Oil and chemical spills and other environmental catastrophes
- Agriculture practices
- National and global economic trends
- Land development
- Fishing practices of other nations.

Ultimately, the success of our stewardship is determined by the natural environment and human behavior, neither of which can be controlled absolutely.

Nevertheless, we are optimistic about the future, and we believe that, despite the challenges, Americans do and will continue to enjoy the benefits of diverse and healthy marine ecosystems. When we truly have an informed public using an understanding of coasts and oceans to make social and economic decisions, that vision will be fully realized.

NMFS Performance Measures

Outcomes	Strategic Plan Performance Objectives	NOAA Performance Measures	FY 2003 Baseline	FY 2010 Estimated Target
Healthy and productive coastal and marine ecosystems that benefit society	Increase number of fish stocks managed at sustainable levels	Number of overfished major stocks of fish (GPRA)	44	To be discontinued and replaced in FY07*
		Number of major stocks with an "unknown" stock status (GPRA)	88	To be discontinued and replaced in FY07*
		Percentage of plans to rebuild overfished major stocks to sustainable levels (GPRA)	90%	To be discontinued and replaced in FY07*
A well informed public that acts as a steward of coastal and marine ecosystems	Increase number of protected species that reach stable or increasing population levels	Number of protected species designated as threatened, endangered or depleted with stable or increasing population levels (GPRA proposed)	18	38
		Number of protected species with known impacts from fisheries for which mortalities have been reduced to acceptable levels (GPRA proposed)	117	127
		Number of protected species designated as endangered, threatened, depleted or strategic stocks for which recovery, conservation, and/or take reduction plans are in place (GPRA proposed)	22	76
		Number of stocks of protected species with adequate population assessments (GPRA proposed)	52	110
	Increase number of habitat acres conserved or restored	Number of habitat acres restored (annual/cumulative) (GPRA)	5,200/ 11,020	4,300/ 40,704
	Increase portion of population that is knowledgeable of and acting as stewards for coastal and marine ecosystem issues	TBD		

*** These performance measures are due to be replaced for fiscal year 2007, therefore no targets for fiscal year 2010 have been developed.**

GLOSSARY

Biodiversity—The Biodiversity Convention defines biodiversity as "the variability among living organisms from all sources including, *inter alia,* terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems."

Bycatch—The Magnuson-Stevens Fishery Conservation and Management Act defines *bycatch* as "fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards…[but not] fish released alive under a recreational catch and release fishery management program."

Ecosystem—An ecosystem is a geographically specified system of organisms, the environment, and the processes that control its dynamics. Humans are an integral part of an ecosystem.

Ecosystem Approach to Management—Management that is adaptive, specified geographically, takes into account ecosystem knowledge and uncertainties, considers multiple external influences, and strives to balance diverse social objectives

Environment—The environment is the biological, chemical, physical, and social conditions that surround organisms.

Endangered Species Act (ESA) —The ESA is a statute which was enacted in 1973 to conserve species and the ecosystems on which they depend. Species at risk of extinction are listed as "threatened" or "endangered," or as "candidates" for listings. Recovery plans are prepared to identify threats to species and the actions necessary to remove the threats.

Essential Fish Habitat (EFH) —The Magnuson-Stevens Fishery Conservation and Management Act defines *essential fish habitat* as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity."

Exclusive Economic Zone (EEZ) —The EEZ comprises an area which extends from the seaward boundaries of the coastal states (3 nautical miles, in most cases) to 200 miles off the coast of the United States. Within this area, the United States claims and exercises sovereign rights and exclusive fishery management authority over all fish and all Continental Shelf fishery resources.

Fishery—The Magnuson-Stevens Fishery Conservation and Management Act defines *fishery* as "one or more stocks of fish which can be treated as a unit for purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational, and economic characteristics; and...any fishing for such stocks."

Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) – The MSFCMA is a statute which was enacted in 1976 primarily to establish an Exclusive Economic Zone (see definition above) in which foreign fishing could be controlled, and to set up a conservation and management structure for U.S. fisheries. Senator Ted Stevens' name was appended to the title in 1996.

Marine Mammal Protection Act (MMPA)—The MMPA is a statute which was enacted in 1972 to protect marine mammals and their habitat. These species include whales, dolphins, seals, sea lions, walruses, and many others.

Overfishing—The Magnuson-Stevens Fishery Conservation and Management Act defines *overfishing* as "a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis."

Protected Species—As used in this document, *protected species* refers to any species which is protected by either the ESA or the MMPA, and which is under the jurisdiction of NOAA Fisheries. This includes all threatened, endangered, and candidate species, as well as all cetaceans and pinnipeds excluding walruses. This term also includes seabirds, which NOAA Fisheries has a responsibility to protect.

Stock (of fish)—The Magnuson-Stevens Fishery Conservation and Management Act defines *stock* as "a species, subspecies, geographical grouping, or other category of fish capable of management as a unit."

NMFS Organization Chart